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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
SUTHAR, RISHI S	

ART UNIT	PAPER NUMBER
2862	

NOTIFICATION DATE	DELIVERY MODE
09/25/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/759,421

Applicant(s)

KAWAKAMI, CHIKUNI

Examiner

Rishi Suthar

Art Unit

2862

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 and 25 is/are pending in the application.
- 4a) Of the above claim(s) 13-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 23 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is responsive to the amendment filed on 01 August 2007.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 5, 22 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen (4,914,731).

Chen teaches in Figs. 3 and 7 a lighting apparatus comprising a reflecting surface (53) formed on a circuit board; an LED light source (51) mounted on a part of the reflecting surface; and a reflector (40), having a substantially rectangular shape in a plan perpendicular to a light emitting direction of the LED light source, being formed independently from the reflecting surface and provided above the reflecting surface so as to surround said LED light source, and said reflector having an opened rear thereof closed by said reflecting surface when mounted on said circuit board (Fig. 7); an optical component (30) for expanding and flooding the light; and wherein the reflector protrudes from said circuit board when mounted on said circuit board.

Art Unit: 2862

3. Claims 6, 10 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Wu (6,481,130).

Wu teaches in Figs. 1A, 1B, and 8 a lighting apparatus comprising: a circuit board (22); an LED (24) light source mounted on said circuit board; and a reflector (32), having a substantially rectangular shape in a plan view including two pairs of opposing reflective surfaces, for reflecting ahead the light from said LED source, being mounted directly on said circuit board, and having an internal reflecting surface (38) that surrounds the rear and side surface sides of the light source (see Fig. 1B); the LED has a lead terminal, said lead terminal put through a hole provided on the reflector and is jointed with a predetermined pad of the circuit board; said circuit board defines a mounting hole, said reflector having a claw (35) engaging with the mounting hole.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (4,914,731) in view of Koay et al. (US 2002/0047130).

Chen teaches the invention as claimed above, but does not teach that the reflecting surface on the circuit board is formed by gold plating. Koay et al. teaches that gold plating on circuit boards is a conventional method in light sources (Koay et al;

paragraph [0011]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the reflector of Chen by gold plating as is conventional for improving the light reflection properties.

6. Claims 3, 4, 11 and 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (4,914,731) in view of Kitano et al. (US 2003/0216151).

Regarding claim 3, Chen teaches the invention as claimed above, but does not expressly disclose the LED is a surface mounted white LED. Kitano et al. teaches a LED light source which can use a white colored chip LED as the light source (Par. [0047], lines 2-4). It would be obvious to one of ordinary skill in the art at the time of applicant's invention to modify the light source of Chen to use a white colored surface-mounted chip LED as taught by Kitano et al. since it is conventional to use white surface mounted LEDs in lighting devices.

Regarding claim 4, Chen teaches the invention as claimed above but does not expressly disclose red, green and blue LED light sources. Kitano et al. teaches an LED light source where the LED light source is comprised of three types of LED light sources for emitting red light (22a), green light (23a), and blue light (24a), and the LED light source for emitting the light in each color is radially placed as shown in Fig. 3. It would be obvious to one of ordinary skill in the art at the time of applicant's invention to modify the light source of Chen to use an RGB LED light source as taught by Kitano et al. so as to use the light source in order to provide a multi-color LED lighting display in a smaller space (Kitano et al., paragraph [0015]).

Regarding claim 11 and 12, Chen teaches the lighting apparatus as claimed above but does not teach an electronic flash apparatus of a camera or a camera comprising the lighting apparatus. Kitano et al. teaches an electronic flash of a camera and a camera using an LED light source. It would be obvious to one of ordinary skill in the art at the time of applicant's invention to use the light source of Chen in the electronic flash apparatus and camera of Kitano et al. since the light source of Chen provides a wide viewing angle and thus would be suitable for an electronic flash apparatus of a camera (Kitano et al., paragraph [0016]).

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (6,481,130) in view of Kitano et al. (US 2003/0216151).

Wu teaches the invention as claimed above, but does not teach three LED sources for emitting red, green and blue light. Kitano et al. teaches an LED light source where the LED light source is comprised of three types of LED light sources for emitting red light (22a), green light (23a), and blue light (24a), and the LED light source for emitting the light in each color is radially placed as shown in Fig. 3. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a multi-color LED arrangement as taught by Kitano et al. in the LED light source of Wu in order to provide a white light which is suitable for flash photography.

8. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (6,481,130) in view of Sommers (US 2003/0180037).

Wu teaches the lighting apparatus as claimed above, but does not teach an electronic flash apparatus of a camera or a camera comprising the lighting apparatus. Sommers teaches an electronic flash apparatus (4) of a camera and a camera (1) which uses an LED flash apparatus in Fig. 1 (Par. [0020]). It would be obvious to one of ordinary skill in the art at the time the invention was made to use the lighting apparatus of Wu in the electronic flash apparatus of a camera of Sommers since the lighting apparatus of Wu improves the efficiency of the device by maximizing the light outputted and would thus decrease the amount of power needed.

9. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (4,914,731) in view of Wu (6,481,130).

Chen teaches the invention as claimed above, but does not expressly disclose said circuit board defines a mounting hole and the reflector is provided with a claw extending directly from the reflector to engage the mounting hole. Wu teaches in Fig. 1B a claw (35) extending from a reflector and engaging a hole in the circuit board. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide claws to engage a hole in the circuit board in the invention of Chen as taught by Wu in order to provide a secure connection and proper alignment between the two components.

Response to Arguments

10. Applicant's arguments filed 01 August 2007 have been fully considered but they are not persuasive. Regarding the claim 1, the applicant is directed to Fig. 3 of Chen where it can be seen that the reflector (40) has a rectangular shape. While the individual holes within the reflector have circular-shapes, it can also be seen that the overall shape of the reflector unit (40) has a rectangular shape. Regarding claim 6, the applicant is directed to Fig. 1A of Wu where it is shown that that a shape of the reflector (as seen from above, or the plan view) is rectangular. The shape of the reflector essentially outlines element 16, which from a plan view, has a rectangular shape. Further, in Fig. 8 of Wu, the reflector (38) has multiple surfaces, as seen by the different angles, which constitute plural pairs of opposing reflective surfaces as claimed.

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 2862

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Telephone Numbers

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rishi Suthar whose telephone number is 571-272-8456. The examiner can normally be reached on M-F 8:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on 571-272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



William Perkey
Primary Examiner

Rishi Suthar
Examiner
Art Unit 2851

RS
September 6, 2007